## DOCUMENT RESUME

- ED 137 262 SP 010 900

AUTHOR Zak, Itai

TITLE The Teacher and the Teaching Profession - An

Ecological Adaptation.

PUB DATE Apr 77

NOTE 24p.; Paper presented at the Annual Meeting, American

Educational Research Association (New York, New York,

April 4-8, 1977)

EDRS PRICE MF-\$0.83 HC-\$1.67 Plus Postage.

DESCRIPTORS Career Awareness; \*Career Choice; Foreign Countries;

Participant Characteristics; \*Personality Studies; Preservice Education; Teacher Education; \*Teacher

Recruitment; \*Teachers

IDENTIFIERS \*Israel; \*Self Selection

## ABSTRACT

This study aimed at assessing the relationships between the structures of the teaching occupation and teacher training institutions and the personality characteristics of teachers in Israel. The hypothesis considered was that recruitment by self-selection would promote an image of conservatism by bringing into teaching people with matched personality traits. Testing was done with samples of student teachers compared with a normative general group, rather than with inservice teachers, since the hypothesis is based on occupational image and the self-selection process. The student teacher samples (n=1882) were compared with a general population on the 16PF. Profile and discriminant analyses revealed that student teachers share common traits, such as submissiveness, conformism, adaptability, sensitiveness, and conservatism, and differ in these traits from the normative group. These results seem to suggest a type of natural selection following some occupational image rather than of any preconceived or predicted kind. It seems reasonable to conclude that the absence of a programmatic recruitment system with preconceived selection procedures does not assure the selection of a diverse group of people. Rather the lack of selection procedures (or selection based on a single attribute such as intelligence or scholastic ability) creates a process of self-selection based on one's (or society's) image of the chosen occupation. (MB)

and the second of the second o

## THE TEACHER

# AND THE TEACHING PROFESSION AN ECOLOGICAL ADAPTATION

ITAI ZAK

TEL AVIV UNIVERSITY

U.S. OEPARTMENT OF HEALTH, EDUCATION & WELFARE NATIONAL INSTITUTE OF EOUCATION

THIS DOCUMENT HAS BEEN REPRO-DUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGIN-ATING IT POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRE-SENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

This paper was prepared for the AERA Annual Meeting, New York,

April 4 - 8, 1977. Session No. 7.04 The Teacher and the Teaching Profession-An Ecological Adaptation

ITAI ZAK\*

Tel Aviv University

### Abstract

This study aimed at assessing the relationships between the structure of the teaching occupation and teacher training institutions and the modal characteristics of teachers.

The teaching occupation displays characteristics which foster conservatism among teachers. It was hypothesized that recruitment by self-selection would promote this image by bringing into teaching people with matched personality traits.

The student teacher samples (N=1882) were compared with a general population on the 16PF. Profile and discriminant analyses revealed that student teachers share common traits, such as submissiveness, conformism, adaptability, sensitiveness, and conservatism, and differ in these traits from the normative group. The common-space and the differences between groups are discussed with regard to the type-placement and the specific vs. the general training models.



i

In his paper on structure and teacher performance, Lortie (1971) has analyzed performance levels in teaching on the American scene. His main thesis, as he puts it, is the fol-"The structure of the occupation, particularly processes of recruitment, socialization and reward allocation, presses teachers toward individualism and conservatism (p. 51)." Considering each of the above processes in turn, Lortie sketches an eloquent sociological network which lends support to his thesis. Specifically, the system as it is now, fosters a conservative and individualistic approach by teachers in their daily work (and see Friedman, 1962, for a similar thesis). Among other points, Lortie argues that the ease of entry into teacher training institutions leads to a process of self-selection in recruitment. In effect, no careful screening takes place based upon a clear image of the qualities needed to perform the role of teacher. Although these observations have subsequently received confirmation in many countries (OECD, 1974), it is questionable whether it follows that teachers consequently can be characterized only as individuals who do not exhibit modal characteristics of persons of a particular kind (i.e., occupation). Such an assertion should have been tested empirically.

Indeed, there have not been many successful studies reported on teacher personality and its relation to teaching

performance (see Getzels and Jackson, 1963, pp. 536, 546, 550-554; Peck and Tucker, 1973). Yet, in different studies one can find observations concerning one parameter or the other (see, for example, Rosenshein and Furst, 1971, for a review). The structure of the teaching occupation, on the one hand, has well been characterized by conformism and the lack of initiative for innovation, by no involvement in systematic upgrading and by having no reward system for good performance (e.g., Allen, 1969; Bishop, 1971). The recruitment system, on the other hand, has been characterized mainly by self-selection and low socialization (e.g., OECD, 1971, 1974). In addition, the low investment in teacher education (Becker, 1964), is another major characteristic of teaching occupation. The type of training (Becker-specific vs. general) is related to this low investment, and may well "help" to shape the immediate image of the occupation that student teachers have. These processes may lead to the opposite of eagerness for change. Specifically, they may result in conformism, submissiveness and adaptability, conservatism of the temperament, accomodation, conventionality, and similar characteristics. These attributes, if adequately observed, may well define modal characteristics of persons of a particular kind.

The main argument of this study, therefore, is that

self-selection is rather a powerful tool: it repels those who do not fit the "life-conditions" of the training institutions and the occupation, and attracts those who are more apt to stay at work which is suited to their own personali-Thus, the qualities of the teaching occupation bring to teacher training institutions and to the educational system thereafter persons who match such an image. To put it differently, if the teaching occupation and teacher training institutions are characterized by particular attributes, those who choose (and especially by self-selection) teaching as their career, should exhibit unique attributes shared by them and different from others who choose different occupa-Such a type-placement or an adjustment model assumes that there are modal characteristics of persons, beyond their individual differences, in any substantive group of people, be it clinical, occupational, or any other well defined group of persons.

## Samples and instruments

Since the main issue is the occupational image and the self-selection process, it was decided to test the above hypothesis first with samples of student-teachers rather than with teachers on the job, and to compare them with a normative general group.

Two student-teacher samples were tested: the first was

performance (see Getzels and Jackson, 1963, pp. 536, 546, 550-554; Peck and Tucker, 1973). Yet, in different studies one can find observations concerning one parameter or the other (see, for example, Rosenshein and Furst, 1971, for a review). The structure of the teaching occupation, on the one hand, has well been characterized by conformism and the lack of initiative for innovation, by no involvement in systematic upgrading and by having no reward system for good performance (e.g., Allen, 1969; Bishop, 1971). The recruitment system, on the other hand, has been characterized mainly by self-selection and low socialization (e.g., OECD, 1971, 1974). In addition, the low investment in teacher education (Becker, 1964), is another major characteristic of teaching occupation. The type of training (Becker-specific vs. general) is related to this low investment, and may well "help" to shape the immediate image of the occupation that student teachers have. These processes may lead to the opposite of eagerness for change. Specifically, they may result in conformism, submissiveness and adaptability, conservatism of the temperament, accomodation, conventionality, and similar characteristics. These attributes, if adequately observed, may well define modal characteristics of persons of a particular kind.

The main argument of this study, therefore, is that



Profile 1: Comparison of Profiles of "Secondary" and "Blement

	. 771	מכונות מקור source trait												
מאונים centiles	שירוניות sten		C	E	F	(	i		1		1.1	1 (	) (	
100%	10	•			•	•					.1 1		<u>, , , , , , , , , , , , , , , , , , , </u>	
90%	- 9	•	y	•	•	•	•	•	•	•	,			
light for the second production of the	8		•	•	. •	· •	•	•	•	•	•	•		
80%	7	. v² • n,• n n		•		•			_		٠			
70%				e					-	•			•	
4.60						^		_	٠		ĩ	-	• ***	
60%	6		•		•	/·	\.	١.		$\wedge$		•	•	
ממוצט 50% Mean			7	=		/_^		<i>i</i>	.j		X	¬,		
40%		\				1	•		$\triangleright$	^	, (			
	5		ï.		كمضرر	•	. •	•	•	•	•		/.	
30%		17											V	
20%	4	'' ''	•	•	•	•	•	•	•					
	_ 3				*				,					
10%	- 3 2			•	•	•	•	•	•	•	•	•	•	
00%	î l			•	. •	•	•	•	•	•	•	•	• ,	
Secondary	М	6.1	5 5	5 4		6.3			<del>-</del>					
V= . 388		1.7 1	•			1.3	1.6		5.2		5.4		5.4	
Lementary	1.00			٠,,,				1.5	1.5	1.3	1.2	1.6	1.8	
1494		5.6 - 4							5.3	5.3		.5.8	+5	
	100	1.6 1	•	1.0	A1.0	1.5	1.7	1.4	1.6	1.3	1.4	1.7	1.7	
	M												ا المحمد المحمد الم	
8	σ				16 g ( <del>-</del> 16 g ( <del>-</del>							•		



									1 - 1		-			5 1	•	- ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '		
ou	rce	tra	it	ור	מקו	כונות	- <u>η</u>			-						3COOd		
E	<u></u>	(	<u>;</u>	1		LN		V (	0 (	<u>],</u> (	<u>n</u> 2	Q <sub>3</sub>	<b>Q</b> 4	B		econd rder ], ()	n Qi	ובני עז "ח.
•	•	•	·	•	•	• .	•	•	•	•	•	•		•			<u> </u>	<u> </u>
•	•	•		• ,	• (	• .	l verr g	<b>,</b>	•	•	•	•	•	•	•	eser e e e	•	•••
•	•	•	•	, .	•	٠.,•	•	· · · · · •	•	•	•	•	•	•	•	•	•	
		^		_					•					1.				
•	•	/.	V	/\. '\	. /.	^	\	,	•	<b>)</b>	• •	٨	•	/.	•		•	
	<u> </u>	/-/-	رۍ د	<u> </u>	- <i>fi-</i>		7		\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-		-k	<u> </u>	-/-	- -		-\ <del>-\</del> -\-\	<b>\</b>	<b>سرب</b> •
••	الخر		•	•	•	•	•		\\·	/	7	•	À,			/\	` \\.	/.
• .									Ì					,			W.	
•	•	•	•	• 	•	•	•	•	•	•		•	•	•		•	•	
:	•	•	•	•	•	•.			•	: • 		•	•	•	•	•	•	•
	•	•	•	• .	•	•	•	•	•	•	•	•		. • ·	•	•	•	
5.4	5 <b>.</b> 1	6.3	5.9	6.2	5.2	6.1	5.4	5.2	5.4	5.2	· 5.	9 5	.1 6	.5	5.7	5.2	4.8	5.5
	1.0	1.)	1.0	1.5	1.5	1.3	1.2	1.6	1.8	1.3	3 1.	8 1	.3 1	8.1				
4.7 1.5	4.9 1.6	5.6 1.5	5.4 1.7	5.8 1.4	5.3 1.6	5.3 1.3	5.8 1.4	·5.8	4.6	5.3	5.	7-5 °	.5 5	•0	5.1	5.8	4.8	4.7
		. *	- '				37	101	· • • • • • • • • • • • • • • • • • • •	1.4	1.	8 1 	.5 1	.5 —				

in most of the personality traits. Yet, each sample has its own clear characteristics. Consequently, each sample will first be treated separately in comparison to the normative group. Then, a comparison among all samples analyzed together will be presented.

# "Secondary" student teachers

The general pattern of this sample's profile (in comparison to the normative group, with significant differences of p<.01) is: more warmhearted (A+); more sober (F-); more persistent and accepting of social norms (G+); more venture—some (H+); more tender—minded (I+) and imaginative (M+); more self-assured (O-); more group-dependent (Q2-); more controlled and of higher self-esteem (Q3+); and more relaxed (Q4-).

Since personality source traits are intercorrelated, a two-group (sample and normative group) discriminant analysis was performed. The combination of traits revealed that 11 traits significantly contribute to discrimination. Two groups of personality traits were the most discriminating factors. The first group consisted of G, F, M, I, A, and the second one consisted of Q4 and O: That is, students who choose secondary education as their career are characterized (and are distinguished from their fellow students to a great extent) by conformism and acceptance of social norms,

soberness, imagination and sensitivity, and warmheartedness. Consequently, they are more relaxed and placid. The second-stratum, a higher-order combination of traits, revealed this tendency toward low anxiety, and in addition--preference for emotional rather than rational reaction.

## "Elementary" student-teachers

Here, the general profile pattern is comprised (with p<.01) of the following: affected by feelings (C-); accomodating and conforming (E-); sober, prudent (F-); sensitive (I+); shrewd (N+); and very conservative (Q1-). Intercorrelations of the traits significantly discriminate elementary student-teachers from the general population. The meaningful combinations are of two clusters: the first one, Q1, E-, F-, L-; that is, those who choose elementary teaching as their career are highly conservative, adaptable and conforming, serious, trusting and lacking ambition for promotion and advancement. The second cluster is composed of I+ and C-, that is, sensitivity and emotionalism. These two traits are also those which differentiate between the sexes in Israeli samples, and they appear here in a mostly female sample. second stratum combination reveals emotionalism and dependency, and, to some extent, introversion and anxiety as well. The common-space

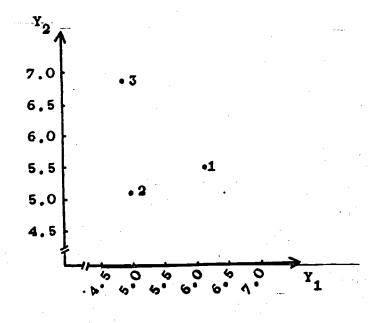
Is it possible to characterize teachers, or at this point



student-teachers, across levels of teaching and types of institutions? That is, is there any common pattern among those who select themselves into teaching in general? In order to an wer these questions, a three-group discriminant analysis was performed.

A plot of the group centroids (in sten units) which gives visual corroboration of the discriminant space is presented in Figure 1. The set of standardized discriminant-function-weights with related statistics can be found in Table 1. As can be seen in Figure 1, the Y<sub>1</sub> function serves mainly to separate the general population from both student-teacher groups, which are scarcely differentiated along this axis. That is, there are some common traits shared by student-teachers at large. The second function, Y<sub>2</sub>, sets "secondary" student-teachers off from the "elementary" student-teacher group.

Thus, both discriminant functions play significant roles in separating the three groups from one another. Looking at the highest standard-ized-discriminant-weights in Y<sub>1</sub> (Table 1) reveals that student-teachers, as a unique group, can be characterized mainly as submissive, conforming and accommodating (E-), desurgent, prudent, sober, (F-), sensitive (I+) and conservative (QH). These common features are found consistently when these



groups are compared to many specific occupational groups. The difference between the centroids of these groups and the normative group is of more than two-thirds of a SD, and is highly significant.

The second function,  $Y_2$ , shows that after controlling for the first function, "secondary" student-teachers compared to "elementary" student-teachers are at least more conscientious (G+), more imaginative (M+), and more liberal (Q1+). The difference between the centroids here is almost 1 SD, and significant. There are, of course, more statistically significant differences when separate  $\underline{t}$ -tests are performed. However, since traits are intercorrelated and  $\underline{N}$  is large, they were not considered meaningful in this study.

The above common features, as well as the differences between groups, may well point to modal characteristics of those who choose teaching as their profession, as well as to differences between the two types of training institutions, or the two levels of teachers, in the educational system in Israel.

## Discussion

Considering our findings on the teacher's personality profile, it seems reasonable to state that self-selection is a powerful tool with regard to the type-placement model. Even a versified and a combined occupational group such as



primary and secondary school teachers taken together can be characterized by measurable personality traits. Moreover, such a profile could have been predicted from job descriptions and analyses. That is, on the one hand, the occupational structure of teaching and the reward system were independently characterized by parameters leading toward conservatism and conformity; and on the other hand, student-teachers were found to be conformists, conservatives and lacking ambition for advancement. Instead of individualism, however, one finds a strong tendency toward group-dependency at the primary level, at least when measured in the personality sphere.

A system which eminently does not strive toward improvement of abilities, or is not geared to elevation of performance and quality, whose main reward is one of survival rather than advancement—such a system is not supportive of initiative for innovation and progress. The existing social morms prevail and the teacher is satisfied with this situation and with himself. In short, his personality is well adjusted to the occupational demands, and teaching, as of today, is equally suited to those who choose to teach.

In addition, the difference between the two levels of teaching, or between the two types of training institutions, may illustrate what was defined by Becker as specific vs.



general training (Becker, 1964). Specific training is what characterizes the elementary education training institutions in Israel. As was shown previously, those who choose such institutions are less warmhearted, more practical, more tough-minded, less imaginative, more self-assured, much more conservative and less intelligent than those who have made their choice of a teaching career later in their educational life, namely, after finishing their B.A. studies at the universit.

Yet, the predominance of women at the elementary level might suggest a rival hypothesis, that sex rather than type of training accounts for the difference in personality types. In order to test this hypothesis, a comparison between women in both samples were performed. Profile 2 presents the results of this comparison. As can be seen, these results suggest a rejection of such an hypothesis. The differences between the profiles of women strengthens our second hypothesis that type of institution (or level of teaching) is the predominant factor. (see, for elaborated discussion, Bowman, 1974, pp. 223-224).

Selection into the teaching profession seems then to be more of a type of natural selection following some occupational image, rather than of any preconceived or predirected kind. To follow Friedman's (1962, pp. 96-97) argumentation:



			, S	ourc	e t	rait		מקור	ות	תכונ			
מאונים centiles	עשירוניות stens	A	C	E	F	G	H	1	L	M	N	0	Qı
100%	10					•	•	•	•	•	•	•	
90%	8				and by let who so had a so had the so had a so had a the so had a so had a	•	•	• .	•	•		•	
80%	7						•	:	• .	•	•	•	•
70%					•	· /			المستوانية				2   2 
60%	6	• 1			•	/.\	\./	<b>△</b>	•	$\wedge$	: •	•	•
			$oldsymbol{\lambda}$ .			/	· ·		7 -		X; 		
lean 30/0			- F	Photo	1.	,,,,,		`\	<u>V_</u>	المذي	1		
40%	5					•	•	•	•	•	•		المرا
30%			e .									<b>L</b>	_
20%			de area de a			•	•	•		•	•		
10%	3			a de la cale			•	•	•	•	•	•	
%00							•			•	. •		•
Secondary	N	6.1	5.3	5.3	5.1	6.6							
N= 314 —	,	1.7	1.7	1.5	1.8	1.3	1.6	1.4	1.5	1.3	1.3	1.6	1.8
Blementar	* *	5.4	5.4	* 5.0	5.0	5.4 1.7	5.5 1.8	5.2 1.7	5.2 1.9	5.2 1.2	5.7 1.8		4.7
N= 1280 -	<del>0</del> ,												
	M.											•	
		gamen a job s Gamen			i de la la serie de la compania del compania de la compania del compania de la compania del compania de la compania de la compania de la compania del compania de la compania de la compania de la compania del compania	tet diskinda missioni				6.2			

ERIC Atuli Saci Provided by ERIC

MI

ource trait כונות מקור						נכונו	n		ing of the land	S	second order						
E	F	G	Н		L	M	N	_0	Q	Q	, 0	3 O	4 B				ַני על 0 שו
	• •	•	•	•	•												
	•	•		•	•	•	•										
	•	•	•	•	•	•	<b>**</b>										
		^		•			i L					1		and a second of the	ر از		
	· •	/.	\.	<b>/</b> .\		$\wedge$	***		<b>.</b>				1.				
	- 7	/_ <u>_</u> _	;-~		7-	/	//			-	1	<b>.</b>	/				
	\\ \.	port.	•		V_	'ر۔۔۔ '				X		A					
														4.30			<b>/</b> ``
	•	•	•	•	•	•	•								garten indian		
	•	•		•	•												
	•	•	•	•	•	•	•			And the second							
		•	•						•								
5.3 1.5	5.1 1.8	6.6 1.3	5.8 1.6	6.3 1.4	5.2 1.5	6.2 1.3	5.4 1.3	5.3 1.6	5.4 1.8	5.1 1.3	5.8 1.8	5.2	6.5	5.7	5.3	4.7	5.5
		,									t.			Start Albert	<b>R</b> A	e A	4.9
1.5	1.7	1.7	1.8	1.7	1.9	1.2	1.8	1.9	1.3	1.8	1.9	1.9	1.4		57.4.	7.4	4.9
1)								4			- 20	*. d					

If we were to invent a recruitment system to ensure the rejection of enthusiastic, imaginative, adventuresome, experimenting and analytical persons, and to accept to the system concrete-thinking, less intelligent, conforming, accomodating and conservative persons, the best way would have been to imitate the current structure of the educational system and its recruitment procedures. Here we have the assurance of self-selection that preserves the current modal characteristics of persons in the teaching occupation.

It is for the policy-makers to decide whether or not they would like to see such a trend continued. It seems reasonable to conclude that the absence of a programmatic recruitment system with preconceived selection procedures does not assure the selection of a diverse group of people. Rather, the lack of selection procedures (or selection based on a single attribute such as intelligence or scholastic ability) creates a process of self-selection based on one's (or society's) image of the chosen occupation.



## Footnotes

- \* Data were collected as parts of various studies. I would like to thank Dr. Tamar Horowitz for her help in the collection of the elementary school data, and to my assistant, Menucha Birenbaum for her help and devotion in data analysis. A research grant was made by the Center of Research on Teacher Personnel at the School of Education, Tel Aviv University.
- 1. In Israel there are two different teacher-training institutions: elementary education is taught in separate government-owned schools and consists of a 2-3 year course of study; secondary education consists of a 1-2 year program within the framework of university school of education after completion of a B.A. in a subject matter area. Although the government schools require high school matriculation, in actual fact, only about one-half of the entering students have complete the high school matriculation.
- 2. The normative group and its characteristics are described in the norm supplement to the Hebrew manual for the 16PF, CAQ. Research and Consultation Center of Educational Personnel, 1976.





3. Factor B (Intelligence) in the Israeli version of the 16PF is administered separately and was administered to the total university sample while only to portions of the remaining samples. Therefore, only 15 factors have been analyzed in the discriminant function analysis.



#### References

- Allen. D.A. <u>Differentiated staff</u>, Washington, D.C.: National Educational Association, 1969.
- Becker, G.S. <u>Human Capital</u>. New York: National Bureau of Economic Research, 1964.
- Bishop, L.K. Comprehensive staff differentiation. New York University Education Quarterly, 1971, 2, 2-6.
- Bowman, M.H. Learning and earning in postschool years. In F.N. Kerlinger & J.B. Carroll (Eds.), Review of research in education, 2, Itasca: Peacock, 1974, ch. 6.
- Cattell, R. B., Ebber, H.W., & Tatsuoka, M.M. Handbook for the 16PF.Champaign, Ill.: IPAT, 1970.
- Friedman, M. Capitalism and freedom. Chicago: Chicago University Press, 1962.
- Getzels, J.W., & Jackson, P.W. The teacher personality and characteristics. In N.L. Gage (Ed.) Handbook of research on teaching. Chicago: Rand McNally, 1963, ch.11.
- Lortie, D.C. Structure and teacher performance: a prologue to systematic research. In H.E.W., How teachers make a difference. Washington, D.C.: U.S. Government Printing Office, 1971,pp. 51-65.
- OECD, Training, recruitment and utilization of teachers in primary and secondary schools. Paris: OECD, 1971.
- OECD, Recent trends in teacher recruitment. Paris: OECD, 1974.
- Peck, R.P., & Tucker, J.N., Research in teacher education. In R.M.W.

  Travers (Ed.) Second handbook of research teaching. Chicago: Rand
  McNally, 1973, ch 30.
- Research Center of Education Personnel, 1976. The Hebrew manual for the 16PF, CAQ. Tel Aviv: Educational Systems- Ramot Ltd.1976
- Rosenshein, B., & Furst, N. Research in teacher performance criteria.

  In B.O. Smith (Ed.), Research in teacher education, New Jersey,

  Englewood Cliffs: 1971.ch 3

Table 1
Standardized-Discriminant-Weights of the Two Functions

Sou	rce Traits*	Yı	Y <sub>2</sub>
A	Warmhearted, easygoing	-266	125
C	Emotionally stable, mature	279	193
E	Assertive, aggressive	396	176
F	Happy-go-lucky, enthusiastic	535	-065
G	Conscientious, persistent	-279	490
H	Venturesome, uninhibited	-287	-029
I	Tender-minded, sensitive	-465	-070
L	Suspicious, hard to fool	137	-064
M	Imaginative, absent-minded	-172	475
N	Shrewd, polished	057	-114
0.	Apprehensive, self-reproaching	245	-157
Ω,	Experimenting, liberal	367	516
Ω2	Self-sufficient, resourceful	-050	297
Ω3	Controlled, high self-esteem	043	040
$Q_4$	Tense, frustrated	223	-291
. ** 			· · · · · · · · · · · · · · · · · · ·
Wil	k's Lamda	.851	.933
8 0	f Trace	57.2	42.8
V	$oldsymbol{p}_{i}$	<001	<.01

<sup>\*</sup> The personality source traits of the 16PF are set up as bipolar concept, and are keyed here according to the description of the "positive" pole.

16

Figure Caption

Figure 1: A plot of the discriminant space of the three groups (1 = Normative group; 2 = "Elementary" group; 3 = "Secondary" group).

